REVISIONS

LT	DESCRIPTION	DATE	APPROVED
A	Corrected configuration listing in table I and added a second source	30 Jan 86	Ivan R. Jones
B	Correction to part number in 6.4. Editorial changes throughout. Changed titles in 3.5, 3.6, 4.2.2, 4.2.3, table I, and table II.	22 Aug 90	Randy Larson
C	Deleted MIL-STD-105 and added new sampling tables, editorial changes, corrected source of supply information.	24 Mar 00	Kendall Cottongim
D	Delete P/N and substitute PIN, editorial changes, update to latest DSCC DWG format.	05 Mar 03	Kendall Cottongim

CURRENT DESIGN ACTIVITY CAGE CODE 037Z3
DEFENSE LOGISTICS AGENCY
DEFENSE SUPPLY CENTER COLUMBUS
COLUMBUS, OHIO 43216-5000

THE ORIGINAL FIRST PAGE OF THIS DRAWING HAS BEEN REPLACED.

Prepared in accordance with ASME Y14.100 Selected item drawing

REV																						
PAGE																						
REV STATUS OF PAGES	**REV**		D	D	D	D	D															
	PAGES		1	2	3	4	5															

PMIC N/A	**PREPARED BY** Dan McGrath	**DESIGN ACTIVITY** **DEFENSE ELECTRONIC SUPPLY CENTER** **DAYTON, OH 45444-5000**
Original date of drawing 6 Aug 1985	**CHECKED BY** Dan McGrath	**TITLE** ARRESTOR, ELECTRICAL SURGE
	APPROVED BY Ivan R. Jones	
	SIZE A / **CODE IDENT. NO.** 14933	**DWG NO.** 85123
	REV D	**PAGE** 1 **OF** 6

AMSC N/A 5920-E050

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

1. SCOPE

1.1 Scope. This drawing describes the requirements for a family of electrical surge arrestors used for dc overvoltages.

1.2 Part or Identifying Number (PIN). The complete PIN is as follows:

85123	-01
Drawing number	Dash number (See table I)

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

DEPARTMENT OF DEFENSE

DoD-D-1000 - Drawing, Engineering and Associated List.

STANDARDS

DEPARTMENT OF DEFENSE

MIL-STD-202 - Test Methods for Electronic and Electrical Component Parts.

MIL-STD-1285 - Marking of Electronic Parts.

(Unless otherwise indicated, copies of above specifications, standards, and handbooks are available from the Document Automation and Production Service, Building 4D (DPM-DODSSP), 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.2 Non-Government publications. The following document forms a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents that are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE).

IEEE C62.31 - IEEE Standard Test Specifications for Gas Tube Surge Protection Devices.

(Application for copies should be addressed to the IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854.)

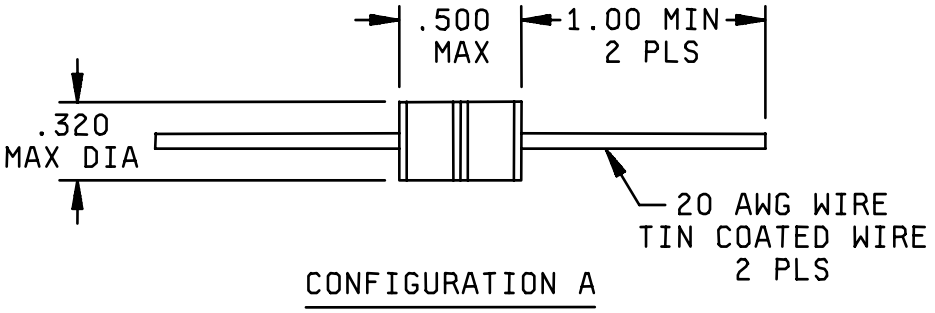
(Industry association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

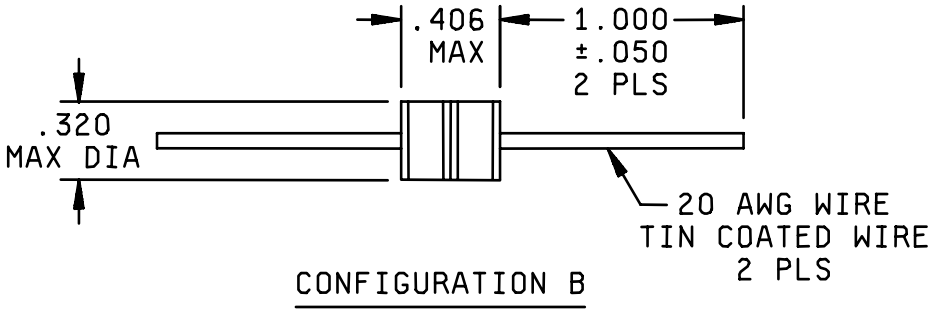
3. REQUIREMENTS

3.1 Drawing precedence. This drawing takes precedence over documents referred to herein and shall be interpreted in accordance with DoD-D-1000.

3.2 Interface and physical dimension requirements. See table I and figure 1.



CONFIGURATION A



CONFIGURATION B

Inches	mm
.020	0.51
.050	1.27
.320	8.13
.406	10.31
.500	12.70
1.000	25.40

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

FIGURE 1. Dimensions and configurations.

3.3 Marking. Marking shall be in accordance with MIL-STD-1285, except the part number shall be as specified in 1.2 with the manufacture's name or code. Date code and lot symbol shall be as specified in 1.2 with the manufacturer's name or code. Date code and lot symbol shall be marked on the part or on the unit package.

3.4 Electrical characteristics. See table I.

3.5 DC breakdown voltage. The dc breakdown voltage shall be in accordance with 4.2.2 and table I.

3.6 Maximum single impulse discharge current. Maximum single impulse discharge current shall be in accordance with 4.2.3 and table I.

TABLE I. P/Ns and electrical characteristics.

P/N 85123-	Dc breakdown voltage +20 percent, -10 percent (dc)	Maximum single impulse discharge current (amperes)	Configuration
01	440	10,000	A
02	400	1,000	B

3.7 Insulation resistance. The insulation resistance shall be 10,000 megohms minimum and in accordance with 4.2.4.

3.8 Operating temperature. The operating temperature shall be -55°C to +125°C.

3.9 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.10 Workmanship. Parts shall be free of flash pits, voids, and excessive mold marks. Visible parting line is acceptable.

4. VERIFICATION

4.1 Conformance inspection.

4.1.1 Inspection of product for delivery. Inspection of product for delivery shall consist of the group A inspection.

4.1.1.1 Group A inspection. Group A inspection shall consist of the inspections specified in table II, in the order shown.

4.1.1.1.1 Sampling plan. Group A inspection shall be on an inspection lot basis. Samples shall be selected in accordance with table III, based on the inspection lot. If there are one or more failures, the inspection lot shall be considered to have failed.

4.1.1.1.1.1 Rejected lots. The rejected lots shall be segregated from new lots and those lots that have passed inspection. The supplier may rework it to correct the defect or 100 percent inspect the lot and remove all defective parts. The rejected lot shall then be inspected in accordance with table II for those quality characteristics found defective in the sample. If one or more defects are found in this second sample, the lot shall be rejected and shall not be supplied to this specification.

TABLE II. Group A inspection.

Inspection	Requirement paragraph	Test method paragraph
Visual and mechanical inspection		
Dimensions	3.2	4.2.1
Marking	3.3	4.2.1
Workmanship	3.10	4.2.1
DC breakdown voltage	3.5	4.2.2
Maximum single impulse discharge current	3.6	4.2.3
Insulation resistance	3.7	4.2.4

4.1.1.1.1.1.2 Disposition of sample units. Sample units which have passed all the group A inspection may be delivered on the contract or purchase order, if the lot is accepted and the sample units are still within specified electrical tolerances.

TABLE III. Group A zero defect sampling plan.

Lot size			Sample size
1	-	13	100 percent
14	-	150	13
151	-	280	20
281	-	500	29
501	-	1,200	34
1,201	-	3,200	42
3,201	-	10,000	50
10,001	-	35,000	60
35,001	-	150,000	74
150,001	-	500,000	90
500,001	-	and up	102

4.1.2 Defective characteristics and properties. All dimensional characteristics are considered defective when out of tolerance. All physical and functional properties are considered defective when outside the specified minimum, maximum, or range as applicable. All workmanship characteristics are considered defective when they would be detrimental to the intended use, performance requirements, or environmental survival.

4.2 Methods of inspection.

4.2.1 Visual and mechanical inspection. Electrical surge arrestors shall be examined to verify that the physical dimensions, marking, and workmanship are in accordance with the applicable requirements (see 3.2, 3.3, and 3.10)

4.2.2 DC breakdown voltage. The dc breakdown voltage shall be tested in accordance with IEEE C62.31 and shall be within the tolerances specified in table I herein. DC breakdown voltage tests shall be performed before and after the test performed in 4.2.3.

4.2.3 Maximum single impulse discharge current. Maximum single impulse discharge current shall be tested in accordance with IEEE C62.31 using an 8 by 20 microsecond wave shape, and shall be as specified in table I.

4.2.4 Insulation resistance. The insulation resistance shall be measured at 100 V dc in accordance with MIL-STD-202, method 302.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Departments or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. Devices conforming to this drawing are intended for use when military specifications do not exist and qualified military devices that will perform the required function are not available for OEM application.

6.2 Ordering data. The acquisition document should specify the following:

a. Complete PIN (see 1.2).

b. Requirements for delivery of one copy of the conformance inspection data with each shipment of parts by the manufacturer.

c. Whether the manufacturer performs the group A inspection or provides a certificate of compliance with group A requirements.

d. Requirements for notification of change in product to contracting activity, if applicable.

e. Requirements for packaging (see 5.1).

6.3 Replaceability. Devices covered by this drawing will replace the same commercial device covered by contractor prepared specification or drawing.

6.4 Users of record. Coordination of this document for future revisions are coordinated only with the suggested sources of supply and the users of record of this document. Requests to be added as a recorded user of this drawing should be in writing to: DSCC-VAT, Post Office Box 3990, Columbus, OH 43216-5000 or by telephone (614) 692-0556 or DSN 850-0556.

6.5 Suggested sources of supply. Suggested sources of supply are listed herein. Additional sources will be added as they become available for assistance in the use of this drawing, contact Defense Supply Center, Columbus, ATTN: DSCC-VAT, Post Office Box 3990, Columbus, OH 43216-5000 or by telephone (614)-692-0556 or DSN 850-0556.

DSCC drawing PIN 85123- 1/	Vendor similar designation or type number	Vendor CAGE	Vendor name and address
01	EP-9016	99747	Reynolds Industries, Incorporated 5005 McConnell Avenue Los Angeles, CA 90066-6734 (310) 823-5491
02	EP-9014		

1/ Parts must be purchased to this DSCC PIN to assure that all performance requirements and tests are met.